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### REMARKS

In the Office Action, the Examiner indicated that claims 7 and 8 would be allowable if rewritten in independent form. By this Amendment, claims 7 and 8 have each been rewritten in independent form and, therefore, are now in condition for allowance, as is claim 9 amended to be dependant on allowable claim 8.

The specification has been amended to update the status of the pending applications, which have now issued as the respective patents.

In the Office Action, claims 1-5 and 13-19 were rejected under 35 U.S.C. § 112 with the Examiner questioning the interrelationship of the elements recited therein. By this Amendment, independent claims 1, 5, 13, 15, and 17 have been amended to more clearly define the invention and position the various elements in the gas flow stream or couple them to one another. The amendments to these independent claims, it is submitted, sets forth the interrelationship of each of the components in relationship to the analyte stream to clarify the structure and method defined by these claims.

In the 35 U.S.C. § 112 rejection, the Examiner also asked what type of sample is being fused. The sample, as set forth in paragraph 14, is typically a one gram pin sample or shaving and can be of any type of material which contains nitrogen, hydrogen, or oxygen, as is well known in the analytical art. The thermal conductivity detector, as is also well known, detects nitrogen as a gas, as one of the byproducts of combustion in the analyte stream. The scrubber is positioned, as set forth in the claims, upstream of the thermal conductivity cell.

In the Office Action, claims 6 and 9 were rejected under 35 U.S.C. § 102 on the basis of Kuznetsov et al. (4,329,868). Claim 6 has been canceled. Claim 9 has been amended to depend from claim 8, which has been indicated as being allowable by the Examiner. As such, claim 9 is also now in condition for allowance.

Claims 10-12 and 15 were also rejected under 35 U.S.C. § 102 on the basis of Busch et al. (5,473,162). Initially, it should be noted that for a prior art reference to anticipate under 35 U.S.C. § 102 every element of the claimed invention must be identically shown in a single reference, see *In re Bond*, 15 USPQ2d 1566 (Fed. Cir. 1990) emphasis added. Those elements

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must be arranged as in the claim (emphasis added). *Brown v. 3M*, 60 USPQ2d 1375, 1376 (Fed. Cir. 2001).

Initially, it is noted that claim 10 defines a fusion furnace for fusing a sample containing hydrogen. The Busch et al. patent discloses a flame photometer as its primary source of excitation of a sample, which is subsequently analyzed by a gas chromatograph. It does not disclose a fusion furnace, which is the first element of Applicant's claim 10 and as also defined in claim 15. Busch discloses an electric furnace 700 (Fig. 46) which, as described in column 57, lines 37 et seq. is a furnace in which infrared active molecules are excited by thermal heating. Subsequently, the excited molecules change valence states and emit IR radiation, which is subsequently detected by detector 730. It is not a fusion furnace. Fusion furnaces are well known in the art and, in fact, the background of the present invention references commercial models, such as EF 400, from Applicant (paragraph 14).

Another element absent from the Busch et al. reference is a heated copper oxide catalyst. Also, the relationship of an H<sub>2</sub>O IR detector adjacent and immediately downstream of the analyte from said catalyst, as specifically defined in claim 10 and claim 15 is absent in the Busch reference.

Accordingly, it is submitted that the Busch et al. patent fails to disclose each and every element of the structure, as specified in claims 10 and 15 or claims 11 and 12 dependent thereon. Should the Examiner continue the Section 102 rejection based upon Busch et al., it is respectfully requested that he specifically point out which each and every element of claims 10 and 15 appear inasmuch as the reference of column 6 through column 12 and column 16, lines 13-20, noted in the Office Action did not appear to disclose such structure or their respective arrangement.

In view of the absence of the structure defined by these claims, Applicant need not address the Examiner's discussion regarding the function of the structure as set forth in these claims.

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By this Amendment, it is submitted, therefore, that the claims as amended herein all define patentable subject matter and this application is now in condition for allowance. A notice of allowance is, therefore, respectfully solicited.

Respectfully submitted,

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